Determining Ohio Physician Assistants' Attitudes on Assessing Geriatric Driving

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2008

Dedication

This project is dedicated to my loving husband and family for all of their support.

Acknowledgements

Thank you, Professor April Gardner, MSBS, PA-C; Professor Jay Peterson, MSBS, PA-C; Gary Naglie; Mark Miller; and Dr. Christopher Bork, Ph.D., for all of your help.

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Introduction

"An elderly man whose car hurtled through a farmers market, killing 10 people and injuring more than 70, was convicted Friday of vehicular manslaughter with gross negligence – the harshest verdict possible"(Jablon, 2006). Assessing the driving capabilities of elderly patients has become a hot topic in the eyes of the public, as well as the health profession since this horrific accident in 2003. The United States Census Bureau estimates that the current elderly population, those above 65 years old, includes 37,191,004 people and is on the rise. With this increase comes a responsibility to adjust current regulations to provide the best care possible for this growing set of individuals. One such current issue is the regulation of assessing elderly driving privileges.

In 2005, 12% of the United States population was over the age of 65 years according to the National Highway Traffic Safety Administration (National Highway Transportation Safety Administration [NHTSA], 2005). This population accounted for seven percent of all people injured in traffic crashes, as well as 15% of all traffic related fatalities throughout the United States. The 7% and 15% are representative of elderly patients involved in fatal crashes in Ohio as well.

There are specific laws regarding driving regulations of elderly adults in many states. These laws include renewing the driver's license more often than younger populations, as well as being physically present to renew a license, as opposed to mailing in a form. Residents in South Carolina must renew their drivers licenses every 10 years; however, drivers over 65 years must renew their licenses every 5 years. Drivers must also complete a vision test while they are renewing their licenses. Ohio law requires a driver to renew a license every four years with a vision exam (Ohio Revised Code 4507.12), but has no specific regulations for those over the age

of 65 years (LA Writer LLC, 2007). The lawmakers in Ohio consider regulations based on age discriminatory. The lack of regulation for elderly drivers increases the need for healthcare workers to monitor their patients` driving capabilities more closely since the Ohio Bureau of Motor Vehicles has no set standards (Insurance Institute for Highway Safety, 2007).

Studies have shown that many physicians feel they need more information and training on assessing geriatric patients' driving capabilities (Bogner, Straton, Gallo, Rebok, & Keyl, 2004; Braekhus & Engedal, 1996; Cable, Reisner, Gerges, & Thirumavalavan, 2000; Gillespie & McMurdo, 1999; Jang et al., 2007; Meuser, Carr, Berg-Weger, Niewoehner, & Morris, 2006; Steier, Kitai, Wiener, & Kahan, 2003; Tuokko, McGee, Gabriel, & Rhodes, 2007). A study performed in Canada found "o

ver 45% of physicians are not confident in assessing driving fitness and do not consider themselves to be the most qualified professionals to do so" (Jang et al., 2007, p. 531). Studies have not been completed on physician assistants (PAs) who have a key role in the regulatory issue of geriatric fitness to drive assessment.

Literature Review

Physiologic Changes Associated with the Elderly Driver

Driving a vehicle is a privilege. Restricting a driver's license is a sensitive subject for most healthcare providers because of the enormous impact this decision will have on the patient's life. Studies have shown that elderly drivers are involved in more accidents resulting in deaths per miles driven than any other age group (NHTSA, 2005). Taking away a drivers permit limits the patient's freedom significantly. A self-transported patient has the liberty to travel as he or she pleases, whether it is to the grocery store, church, or a social event. The restricted driver must now rely on someone else to provide transportation. Often patients will not leave their residence as often as they did before the license was restricted, which may lead to depression. Seizing a patient's license is a vast social issue, but there are numerous medical reasons to support the decision to withdraw a license, which must be addressed.

Aging is inevitable. Many changes to the body accompany aging, such as a decline in vision, hearing, mentation, and motor functions. One prospective study involving drivers over the age of 55-years-old conducted baseline examinations for mobility, mental status, and visual performance status. The follow-up evaluation conducted five years later found that patients with impaired performance on agility, visual perception, and cognitive measures were almost two times as likely as those without impairment to be involved in an at-fault accident (Ball et al., 2006).

Some of these physiologic changes are obvious to the patient and many patients will restrict their own driving. One study measuring visual function and self-restriction of driving found that older drivers with worse visual function restricted their own driving during high-risk situations, such as driving at night, as well as restricting their overall driving mileage (Freeman,

Munoz, Turano, & West, 2006). Recognizing and understanding physiologic changes that are not as easily noticed by the patient plays a large role in why this issue of restricting licenses is so difficult. Most experts agree that the ability to drive safely begins to slowly deteriorate at the age of 55-years-old (American Automobile Association, 2008). Physiologic change occurs at a different rate for each patient. This makes it difficult to create laws to recheck driving capabilities based on age. The law turns to healthcare workers to help ease the burden of this decision. Being an informed healthcare provider with an approved protocol will be the most beneficial and non-prejudicial assessment of the patient while assessing driving capabilities.

Vision is responsible for obtaining up to 85% of the information needed to drive. Driving "involves the simultaneous use of central and peripheral vision and the execution of both primary and secondary visual tasks" (Ball, Owsley, Sloane, Roenker, & Bruni, 1993, p. 3111). Many of the increased dangers with driving are related to changes in the elderly eye. These changes include diabetic retinopathy, cataracts, macular degeneration, and glaucoma (Flowers & Baker, 1998). Age-related changes can decrease central visual acuity and peripheral vision (Retchin, 1998). Depth perception, for which accuracy is a highly important aspect of driving, is directly affected by the changes in peripheral vision. The average patient over the age of 50-years-old decreases from a peripheral vision of 170 degrees to less than 140 degrees (Abrams, 1995). Patients with a deficit less than 120 degrees of horizontal peripheral vision, which is the current accepted value for eye examinations in most states, are twice as likely to be involved in a driving accident (Owsley et al., 1998).

The lens in the eye grows thicker, the pupil shrinks, and the muscle loses elasticity with aging. This causes the eye to become more sensitive to glare, which makes it more difficult for elderly drivers with these changes to drive on a sunny day. Freeman (2006) found that glare

sensitivity was not a reason why elderly patients restricted their own driving privileges. He found subjects used sunglasses or avoided driving during certain times of the day to avoid glare. The amount of light needed to see clearly also increases with age. This can make driving a vehicle at night more difficult for an elderly patient than a younger driver. The color red is also more difficult to distinguish as one ages. Elderly drivers may take longer to notice break lights than younger drivers. Another physiologic change in vision due to aging is an increased accommodation time, which means it takes longer for the eye to change its focus. This makes certain situations such as driving in and out a parking garage or looking from the rear-view mirror or speedometer to the road more difficult. All of these changes can increase the risk of an accident.

Current measures of visual function for renewing a driver's license involve testing visual acuity and depending on the state, peripheral vision. Visual attention is another aspect of vision that is affected by aging, and affects driving capabilities. This change is often not accounted for in state mandated license renewal processes. "Visual attention is used to direct information processing resources to potentially important visual events, a critical skill for avoiding crashes" (Ball et al., 1993, p. 3111). One study conducted in Alabama by Owsley et al. (1998) compared different aspects of vision and mental status to see which factors, if any, have an increased correlation with crashes. These factors included visual acuity, peripheral vision, mental status, useful field of view, eye health, and contrast sensitivity. Visual attention in this study was measured by determining the useful field of view (UFOV) for the patient. The area in which a person will recognize visual stimulation defines the UFOV. The study concluded that testing visual attention is the best predictor of an increased crash rate. The other factors, including visual acuity, have an indirect influence on the frequency of crashes only by directly influencing

visual attention. The study found that a patient with a deficit at or above 40% in useful field of view was 2.2 times more likely to be involved in a crash. Ball et al. (1993) found the same correlation with useful field of view and an increase in vehicle crashes. They also found the only other factor which directly affects crash rates is mental status. These studies conclude that vision changes that occur with the process of aging, and not necessarily with a designated age, have a direct correlation with crash frequency and may potentially be a good way to monitor elderly drivers.

The decline of a patient's mental status is also a concern of healthcare providers when assessing driving capabilities. Fourteen percent of patients over 74-years-old have a decline in cognition. The percentage of patients with a decline in cognition increases to 20% over the age of 85-years-old. One study found a statistically significant correlation between dementia and the frequency of crashes (Stutts, 1998b). Many patients realize their own decline in mentation and restrict their own driving time (Stutts, 1998a; Gallo, 1999). However, not every patient recognizes or acknowledges the decline in function and will not believe a restriction in driving privileges is necessary. Recognition does not always lead to compliance with driving restrictions.

Another factor to consider when determining fitness to drive of elderly patients is chronic medical conditions. According to the Center for Disease Control (CDC), almost 40% of the population over 60-years-old has some stage of chronic kidney disease (Center of Disease Control and Prevention, 2007). One study showed that patients with kidney disease were more likely to report problems with driving than patients who did not have kidney disease (Lyman, McGwin, & Sims, 2001). One study found an increase in both at-fault as well as not-at-fault driving accidents in elderly patients with other chronic conditions such as heart disease, stroke,

arthritis and diabetic neuropathy (McGwin, Sims, Pulley, & Roseman, 2000). Foley, Wallace and Eberhard (1995) found the same correlation between arthritic patients and increased accident frequencies. Arthritic patients, as well as other patients with other musculoskeletal problems, may have a more difficult time with driving tasks such as gripping and turning the wheel. McGwin et al. found that arthritic patients, other musculoskeletal problem patients, and elderly patients may have decreased muscle mass, flexibility, and range of motion which may hinder certain capabilities such as pressing the accelerator or brake. Arthritis and musculoskeletal problems may cause a decrease in reaction time, excess fatigue, and increased distraction.

Looking at the current driving patterns for elderly patients with chronic conditions may also give us an insight into some conditions that need future monitoring by healthcare providers. Stroke, syncope, and seizures are associated with an increased risk of driving accidents (Retchin, 1998). These patients should be monitored carefully after an event and have immediate restrictions placed on their driving privileges. A driving evaluation should be performed only after the state mandated waiting period. Other conditions should also raise caution when determining a patient's fitness to drive. One study showed a need for a decrease in frequency of driving for patients who have a history of falls, fractures, or a stroke (Forrest, Bunker, Songer, Coben, & Cauley, 1997). Patients with these conditions are often not properly informed about driving and these conditions are not assessed when determining if a patient should get the license renewed. One study compared driving skills of patients who have had a stroke with patients who have not had a stroke. The results showed that patients who have had a stroke performed worse on the driving skills test than those who did not (Lings & Jensen, 1991).

Medications play a large role in the determination of medical fitness to drive for geriatric patients. Statistics show that people over the age of 65-years receive 32% of the drugs

prescribed yearly. Not only are geriatric patients normally on more medications than younger generations, but physiologic changes of aging also affect the way medications are absorbed, distributed, and excreted. Certain medications are a known risk factor for driving accidents. Benzodiazepines are a class of drugs found to affect drivers. One study found that the risk of an automobile accident increases to almost 50% during the first week of use (Hemmelgarn, 1997). Other medications which are associated with an increased risk of driving accidents include alcohol, anticholinergics, anticonvulsants, antidepressants, antiemetics, antihistamines, antihypertensives, antiparkinsonians, antipsychotics, muscle relaxants, NSAIDs, narcotic analgesics, and stimulants (American Medical Association [AMA], 2008).

A decrease in hearing is another physiologic deficit found with aging patients. Hearing impairment is the third most prevalent chronic health condition in the United States among older patients according to the American Association of Retired Persons (AARP) (2006). Driving capabilities and safety may be significantly affected by a hearing deficit. Elderly patients may have a difficult time hearing safety sirens or other car horns that are acknowledging certain driving conditions. With all of the changes elderly patients undergo as they get older, close monitoring of physical and mental conditions are necessary to keep not only the patient safe on the road, but other drivers safe as well.

Physiologic changes such as a decline in vision, hearing, mentation, and motor functions are inevitable with aging. Studies have shown that physiologic changes affect driving capabilities. It is important for healthcare providers to be aware of these effects to help them determine if a geriatric patient should have their license restricted.

Current Attitudes of Physicians Regarding Geriatric Driving Assessments

Due to all of the different social issues and medical conditions that can affect the safety of geriatric patients' driving capabilities, many healthcare providers have trouble assessing and restricting elderly patients' drivers licenses. Several studies have been conducted assessing the knowledge and attitudes of physicians regarding the medical fitness to drive assessment (Bogner et al., 2004; Cable et al., 2000; Gillespie & McMurdo, 1999; Irani, Cader, & Butterworth, 2006; Jang et al., 2007; Johansson et al., 1996; Marottoli, 2000; Marshall & Gilbert, 1999; Miller & Morley, 1993). They have concluded that more regulation is needed to perform adequate assessments of geriatric patients in terms of recognition of unfit drivers, consistency of the assessment, and what protocol to follow once an unfit driver is found.

Many physicians want to know if restricting drivers' licenses are effective at decreasing the amount of geriatric patient at-fault car accidents. One study designed around an educational program for visually impaired geriatric patients to modify their driving found that the amount of accidents did not decrease even with a reported reduction in the number of miles driven (Owsley, McGwin, Phillips, McNeal, & Stalvey, 2004). However, a different study comparing accident rates among those with restricted licenses versus those without any restrictions found a significant decrease in the rate of collisions. The study looked at the number of driving incidents before and after the driving restriction was placed in comparison to the general population without any restrictions. The study found a 12.8% decrease in at-fault crashes after the restrictions were placed. They also found a 10% decrease in the number of traffic violations for people with restricted licenses (Marshall, Man-Son-Hing, Molnar, Wilson, & Blair, 2007). Daigneault, Joly, & Frigon (2002) compared elderly male drivers and found that a significant portion of the geriatric population studied had cognitive problems as well as driving disabilities

that could not be corrected with behavioral changes. They suggested that restricting these patients' licenses was the only way to ensure safety for the patients as well as the general public.

One study performed in Canada sent a survey to 1,000 currently practicing physicians and found that most physicians (72.4%) agreed that it should be the legal obligation of physicians to report unsafe drivers to the appropriate authority (Jang et al., 2007). The study also compared provinces that have mandatory reporting laws versus provinces that do not have mandatory reporting laws. They concluded that provinces that require physicians to report unfit drivers report more patients to the proper authorities. However, these same provinces actually assess fewer elderly patients for fitness to drive than those provinces who do not require reporting. The same study found that most physicians (79.2%) believe the assessment of older patients' fitness to drive is an important issue in their practice. However, only 26.8% of the physicians agreed that physicians themselves were the most qualified people to determine medical fitness to drive.

One Finnish and Swedish general practioner study found that less than 21% of the practicing physicians surveyed believed their training was sufficient to assess driving capabilities of elderly patients (Hakamies-Blomqvist, 2002). Another study found that over 45% of the physicians sampled from Canada are not confident in their own abilities to adequately perform driving fitness assessments (Jang et al., 2007). This study also found that 88.6% of the physicians believed they would benefit from further education on geriatric driving assessments. Most physicians also believed a new clinical screening tool would be beneficial to their practice when identifying at-risk drivers. The study found that less than half of the physicians surveyed often or always asked about the patient's history of vehicle accidents, driving infractions, and cognitive testing when assessing a geriatric patient (Jang et al.). One study conducted in the

United States discovered that most of the geriatricians surveyed did not use mental status as a diagnostic tool for driving assessment. The study also found that most of the geriatricians did not keep track of the patients driving record (Miller & Morley, 1993). There is not a protocol for geriatric driving assessments in Ohio currently.

Another issue discovered by these survey studies is that many physicians do not know of the current tools available to them to help with the assessment of geriatric drivers. For example, the American Medical Association and the National Highway Traffic Safety Administration has created guidelines for discussing how certain conditions may affect drivers. The guide is called "Physician's Guide to Assessing and Counseling Older Drivers". The content of the guide includes subjects such as determining if the patient is at an increased risk for unsafe driving, formally assessing function, physician interventions, the driver rehabilitation specialist, counseling the patient who is no longer safe to drive, legal and ethical responsibilities of the physician, state licensing requirements and reporting laws, and medical conditions and medications that may impair driving (AMA, 2008). This guide deals with many of the pressing issues surrounding geriatric driving assessments. One study conducted in the United States found that 69% of geriatricians were not aware of these American Medical Association guidelines (Miller & Morley, 1993). This same study found that there was no clear agreement among geriatricians of when to take away a patient's drivers license. Even if physicians decide to restrict a patient's license, they often do not know how to report the patient. One study surveying current geriatricians in the United States found that over 28% did not know how to report unsafe drivers (Cable et al., 2000).

The social aspect of restricting a patient's driver's license is one of the biggest hindrances to this process of assessing geriatric driving capabilities. Most physicians believe that reporting

a patient unfit to drive can cause a strain in the patient-physician relationship (Marshall & Gilbert, 1999). Studies show a significant change in the patient's affect after the license is taken away. The changes in affect include depression, isolation from society, a loss of the sense of independence, and a diminished quality of life (Marottoli et al., 2000). One study from Canada found that most physicians agreed there was a conflict of interest between the safety of the public and patient confidentiality (Jang et al., 2007). This study found that most physicians believed that reporting patients unfit to drive causes a negative impact on their relationship. These physicians acknowledged negative consequences for both the patient and the patient's family resulting from the restriction of the patient's license. Another study performed in Canada found that nearly 58% of the physicians agreed that reporting unsafe drivers negatively affected the patient-physician relationship. They also concluded that almost 93% of these physicians agreed that the safety of the public was more important than the needs of the individual patient (Marshall & Gilbert). Another study found that 86% of geriatricians would report an unsafe driver even if the patient objected and 75% would still report the patient even if the patient's family tried to intervene (Cable et al., 2000).

These studies highlight a large problem with the current attitudes of healthcare providers concerning geriatric driving assessments. They demonstrate a lack of knowledge concerning how to properly assess an elderly patient when determining fitness to drive. They also demonstrate a lack of knowledge of available resources to help providers assess geriatric drivers. One common theme found throughout these studies is more information regarding fitness to drive evaluations is both wanted and needed for healthcare providers.

Assessing Geriatric Patients for Their Fitness to Drive

Further education for healthcare providers can be beneficial due to the discrepancies and controversy concerning assessing geriatric fitness to drive policies. One study suggests that physicians need more education and awareness regarding the importance of geriatric driving assessments (Steier et al., 2003). A different study used a multimedia workshop to educate healthcare providers about drivers with dementia. Clinicians learned how to assess dementia patients and how to appropriately restrict their licenses if necessary. The re-evaluation of the healthcare providers found a noticeable change in clinical practices after attending the workshop (Meuser et al., 2006).

Studies have shown that specific forms of measurement, which are often not routinely used, may greatly enhance the assessment of geriatric patients. For example, one study found that the use of a driving simulator that incorporated distractions during the test should be incorporated into the routine assessment of fitness to drive (Bieliauskas, 2005). Another study performed in New Zealand found that an actual on-road driving examination identified patients with an increase crash risk (Keall & Frith, 2004). Another examination used to assess geriatric drivers is the mini mental status exam (MMSE). One study found that specific parts of the MMSE were helpful in identifying patients who were at an increased risk of accidents versus those who were not at an increased risk for accidents. The m-mini mental state (m-MMSE), which is a mini version of the Mini Mental Status Examination, was found to decrease the number of license renewals by older patients who had impaired cognitive function when routinely used for the renewal process based on age (Hansen & Hansen, 2002). Another study found that having patients rate their own health gave significant insight into which patients will need to be monitored for driving restrictions in the near future, specifically within two years of

this study (Sims, Ahmed, Sawyer, & Allman, 2007). While opinions vary on the types of geriatric driving assessments used, most physicians agreed that a set protocol for the assessments would be greatly beneficial (Bogner et al., 2004)

Although there is no set protocol for the evaluation of geriatric drivers, there are resources available to educate healthcare providers. For example, the American Medical Association has numerous pamphlets which can facilitate discussion between patients and providers on safe driving practices. There are also resources available to healthcare providers that either test the patients' driving skills or improve these skills used while driving. For example, occupational therapists can screen patients for driving difficulties and work on improving areas of concern.

Physicians are concerned about the increase in the number of geriatric drivers and the inadequate regulation of geriatric driving capabilities. There is a need for studies on current attitudes of other healthcare professionals regarding geriatric driving assessments. There is also a need for more education for all clinicians regarding a standard protocol for the evaluation of the geriatric driver.

These studies have discussed the efficacies of available resources, such as on-road simulators and the m-mini mental status exam to use for fitness to drive assessments. There are also educational options available for healthcare providers such as driving assessment workshops and the American Medical Association's assessing fitness to drive manual. Increasing awareness of these resources is an important issue for healthcare providers today.

Methods

A needs assessment study of the current Ohio physician assistants' knowledge and attitudes was performed as the preliminary step for establishing a protocol and education for physician assistants concerning the geriatric driving assessment. The population for this study included all of the physician assistants in Ohio who belong to the American Academy of Physician Assistants (AAPA) and have a current email address listed as contact information. A cover letter explaining the research purpose was included for informed consent.

The scope of this project included only the physician assistants in Ohio who encounter elderly patients on a regular basis. The elderly population in this study included men and women over the age of 65-years-old. Since the study involved evaluating driving privileges, the physician assistants may assume the elderly patients in their medical facilities have active driving privileges.

This study modified a survey printed in the *Journal of General Internal Medicine* in 2007 entitled "Family physicians' attitudes and practices regarding assessments of medical fitness to drive in older persons" (Jang et al., 2007). The first section contained 17 questions pertaining to attitudes towards driving assessments and reporting unfit drivers. The second section contained 15 questions regarding the frequency of practices or activities pertaining to driving assessments and reporting potentially unfit drivers. The third section contained 19 questions regarding previous assessments of older patients' fitness to drive. The fourth section contained six questions regarding driving policies and programs for the State of Ohio. The last section contained 12 demographic information questions. This study used a nominal level of data gathering to assess the knowledge of physician assistants. It assessed physician assistants' attitudes and practices using an ordinal level of data.

A limitation for this project was the design problem that only physician assistants from Ohio, and not the entire United States, were used. The results of this study are difficult to generalize to all physician assistants in the country because Ohio is a small region of the United States. There was also no control group for this type of research. The sample population also limited the survey because physician assistants are not the only people who assess geriatric driving capabilities, and therefore cannot address the entire subject of geriatric driving assessments. A small response also limited the project. Another limitation is the lack of evidence to ensure the respondents were being honest in their answers.

Results

The surveys were e-mailed to 231 participants who had an active email address listed with the Ohio division of the AAPA. Forty-four responses were obtained. This equals a 19.21% return rate. Of the respondents, 72.7 % (thirty-two people) were involved in an active practice with patients over the age of 65-years old. The minimum number of years in practice of the respondents was one year and the maximum duration in practice was 27 years. The respondents have been practicing for an average of 8.47 years.

Table 1 presents characteristics of the survey respondents. A majority of the respondents were male, aged 20-30 years old, and with 31-60% of their patient population over the age of 65-years. A majority of the respondents drive daily. If assessing driving fitness was applicable, a majority of the respondents spent less than 1 minute performing the assessment. Most of the respondents (56.7%) had not assessed a patient for fitness to drive within the last year. Most respondents (83.9%) also did not report any patient to the Bureau of Motor Vehicles (BMV) within the past year.

Table 2 represents the weighted response frequencies for selected survey questions. Of the respondents, only 29.1 % agreed that assessing the fitness to drive of older persons is an important issue in their practice. Most physician assistants (71%) agreed that physician assistants should assess the driving ability of their older drivers more often than their younger drivers. However, only 25% are confident in their capabilities of evaluating fitness to drive. Although more respondents (36.6%) believe physicians and physician assistants are not the most qualified professionals to identify older persons who are unsafe to drive, 65.6% believe physician assistants should be legally required to report unsafe drivers to the authorities. Most respondents (78.1%) agreed that a clinical screening instrument that helps to identify drivers at

an increased crash risk would be useful to their practices. 87.5% of PAs surveyed believe further education about the evaluation of patients` fitness to drive would be beneficial. 50% of respondents stated they face a conflict of interest when required to report patients and 65.7% believe reporting patients negatively affects the provider-patient relationship. Most agree (75%) that revoking a license leads to negative consequences for the patient. A majority of the respondents (65.6%) also believe that the Bureau of Motor Vehicles does not evaluate potentially unsafe drivers in a timely fashion. Most of the physician assistants (56.3%) are aware of whether their older patients are active drivers; however, fewer PAs (37.5%) know whether their patients with cognitive impairment are active drivers. Family members of the patient raise concerns about driving issues and trigger an evaluation of the patient 48.4% of the time. The respondents stated that only 21.9% of the patients adhere to the recommendation to stop driving; however, most of the respondents (34.4%) would not report the patients who are unsafe drivers and who refuse to stop driving. Physician assistants are more likely to refer patients to a medical specialist (34.4%) opposed to a road test (16.1%) when uncertain of the patients` ability to drive safely.

Table 3 represents weighted frequencies for various components carried out when determining a patient's fitness to drive. The most frequently used variables to assess fitness to drive include a review of medications, medical history, alcohol history, cardiac examination, examination of joints, and a neurologic examination. The variables least commonly used when assessing fitness to drive include a history of driving infractions, an ECG, and referrals for a multidisciplinary geriatric assessment, a road test by the BMV or a road test by a center other than the BMV.

Table 4 represents the current beliefs of state laws and practices regarding geriatric fitness to drive. 78.1% of respondents do not know of the current Ohio laws regarding mandatory reporting. 87.5 % of respondents do not know if Ohio legislation protects them from lawsuits from unsafe drivers they report. One hundred percent of the respondents believe the current procedure for evaluating unsafe drivers to the BMV is not clear to them. 59.4% are unsure of the availability of restricting driver's licenses by physician assistants in Ohio. 81.3% did not know whether there are other centers besides the BMV who perform road tests.

Table 5 represents a cross-tabulation between knowing whether it is mandatory or not to report unsafe drivers in Ohio versus other selected questions in the survey. Physician assistants are more likely to be aware whether their older patients are actively driving if they know reporting is mandatory in Ohio. Those who believe reporting is non-mandatory in Ohio are more likely to assess a patient's fitness to drive due to concern raised by the patient's family. Only 33.3 % of the respondents who believe Ohio is a mandatory reporting state often refer their patient's to a medical specialist. 75% of physician assistants who believe Ohio is a non-mandatory reporting state rarely refer patients for a road test. Only 25% of physician assistants who believe Ohio is a non-reporting state report patients to the authorities if the patient's driving status is uncertain. Physician assistants are less likely to report unsafe drivers who refuse to quit driving to the authorities if they believe their state does not mandate reporting. 70% never report these unsafe drivers regardless of reporting status. Physician assistants who believe Ohio is a non-reporting state (25%) are more likely to report patients who are unfit to drive and who agree to quit driving. For those who believe Ohio is a mandatory reporting state, there is an increase (50%) in feeling pressured by the patient as well as by the patient's family to reconsider the decision to report that patient to the authorities.

Most of the 44 respondents were males between the ages of 20-30 years old and have practiced medicine for an average of 8.74 years. Most physician assistants who responded are not aware if Ohio is a mandatory reporting state for unfit drivers. Only 29.1% of the respondents agreed that assessing the driving capabilities of geriatric patients was an important issue in the practice. Most respondents did not assess a patient for fitness to drive in the last year nor reported a patient to the BMV in the last year. Most physician assistants believe they should be held responsible for the assessment of geriatric drivers, but few feel capable of performing that assessment. Most agree that a clinical assessment tool and education about the driving assessment would be useful.

Discussion

The survey results show mixed conclusions on the subject of geriatric driving assessments. Only 29.1% of the respondents agreed that assessing the driving capabilities of geriatric patients was an important issue in the practice. These findings contradict a previous study surveying practicing physicians in Canada. Jang et al (2007) study found 79.2% of the respondents agreed that assessing geriatric driving capabilities was an important issue in their practice. Another study that studied both physicians as well as other healthcare professionals found that most of the 147 participants of the study agreed strongly that the assessment of driving ability is an important issue (Meuser et al., 2006). This suggests physician assistants specifically need more education to understand why geriatric driving assessments are an important issue. With an increasing geriatric population, assessing patients` functional capacities to drive will become a more important issue.

Although physicians and physician assistants disagree on the importance of the geriatric driving assessment, they do agree that the healthcare provider should be legally required to report unsafe drivers (Jang et al., 2007). Legally requiring providers to report unsafe drivers takes the final decision away from healthcare providers. Requiring all providers to report unsafe drivers could prevent patients from switching practices to healthcare providers known for non-reporting. This promotes better health care because the provider can focus on what is the best decision for each individual patient without the distraction of losing patients to those providers who put the patient's wishes above safety. It also promotes a stronger provider-patient relationship because patient care is enhanced since the provider knows the patient well. Knowing the patient's baseline allows for easier determination of mental or physical changes. If

the patients are changing providers frequently to avoid a restricted driver's license, a long-lasting relationship cannot be developed and the provided health care experience can be diminished.

Another important finding in the study is that only a small percentage (20%) of our surveyed population believes that physician assistants are the most qualified providers to identify unfit elderly drivers. The majority either disagreed or had no opinion on the issue. This correlates with the Canadian physician's study, which found only 26.8% agreed that physicians were the most qualified to assess unsafe elderly drivers (Jang et al., 2007). Since only 20% of the physician assistants believe PAs are the most qualified providers to assess driving, does the provider refer the patients to another resource for driving assessments? Our study found that only 12.5% of the respondents always send patients who have questionable driving status to another medical specialist. Only 3.2% always send these patients for a road test. Over 40% never refer geriatric patients with uncertain driving capabilities for a road test. Although physician assistants feel they are unqualified to provide the medical assessment, 65.6% believe they should be held responsible for reporting unfit drivers. These findings correlate with the Canadian physician study. This study also found that most of the physician assistants do not feel confident in their ability to perform this type of assessment. This poses an important question. If PAs are not confident or the most qualified to perform these assessments and do not refer their patients for further testing, are these potentially unsafe drivers receiving adequate assessment?

Revoking a patient's driver's license has a negative impact on the patient, the family, and the patient-provider relationship. A large majority (65.7%) agreed that revoking a patient's license has a huge negative impact on all of these areas. However, the safety of the patient, as well as the other drivers on the road, should be in the forefront of each providers mind. Having a uniform system for assessing and restricting or revoking driving privileges can help in this

decision making process. Healthcare providers understand delivering bad news is part of the job description. Physician assistants take an oath to do no harm to the patient. Allowing an unsafe driver to continue driving puts the patient's life and the public's safety at risk.

Our study has limitations. The sample population and the response were small. This makes it difficult to generalize the results to physician assistants across the country. The provided responses may not reflect the true attitudes and practices of current physician assistants. However, the anonymity of the survey reduced certain social bias that occurs with survey studies.

Conclusion

In conclusion, this study illustrates a vast problem with the current health care system regarding the assessment of geriatric drivers. Most physician assistants agree that reporting unfit drivers should be a legal responsibility; however, they also believe PAs are not the most qualified professionals to perform the assessment. Currently physician assistants do not feel confident in their capabilities to assess safe driving, but they are also not referring questionable patients to better-qualified professionals or for a road test. Other studies have come to these same conclusions.

A significant finding of this study was that physician assistants do not know the current tools for assessing geriatric driving capabilities. This includes the use of the m-MMSE, the "Physician's Guide to Assessing and Counseling Older Drivers", on-road driving tests, driving simulation tests, and referral to other medical professionals for evaluation.

This study is also significant because with an increase in the number of geriatric drivers, there will be an increase in the number of unsafe drivers on the road. Without proper assessment of these geriatric patients, the number of accidents will also increase. Therefore, more education for physician assistants is needed to address this impending problem.

Education of PAs should illustrate why geriatric driving assessments are important to a practice. PAs need to recognize the signs and symptoms of an unsafe driver, how to respectfully discuss the issue with the patient, who and how to refer a difficult case for help as well as know what should be included in a geriatric driving assessment. It is clear with the increasing geriatric population, and the current attitudes of practicing physician assistants, that existing standards of practice need to be changed regarding the issue of geriatric driving assessments.

Do to the limitations of this study, future research is also necessary to build on the results found. Repeating this study with a bigger sample population in the state of Ohio would be greatly beneficial. National studies should be conducted on PAs throughout the United States to assess the attitudes and knowledge about geriatric driving assessments.

Reference List

Abrams, W., Beers, M, Berkow, R. (1995). Older drivers. In *Merck Manual of Geriatrics* (Second ed.). Whitehouse Station, NJ: Merck Research Laboratories.

American Association of Retired Persons. (2006). Hearing loss. Retrieved December 5, 2007, from http://www.aarp.org/health/conditions/articles/hearing_loss.html

American Automobile Association. (2008). How aging affects drivers. Retrieved July 2, 2008, from http://www.aaaexchange.com/MAIN/Default.asp?CategoryID=18&SubCategoryID=85

American Medical Association. (2008, May 16). Physician's guide to assessing and counseling older drivers. Retrieved June 9, 2008, from http://www.ama-assn.org/ama/pub/category/10791.html

Ball, K., Owsley, C., Sloane, M. E., Roenker, D. L., & Bruni, J. R. (1993). Visual attention problems as a predictor of vehicle crashes in older drivers. *Investigative Ophthalmology and Visual Science, 34*(11), 3110-3123.

Ball, K. K., Roenker, D. L., Wadley, V. G., Edwards, J. D., Roth, D. L., McGwin, G. J., et al. (2006). Can high-risk older drivers be identified through performance-based measures in a Department of Motor Vehicles setting? *Journal of American Geriatrics Society, 54*(1), 77-84.

Bieliauskas, L. A. (2005). Neuropsychological assessment of geriatric driving competence. *Brain Injury 19*(3), 221-226.

Bogner, H. R., Straton, J. B., Gallo, J. J., Rebok, G. W., & Keyl, P. M. (2004). The role of physicians in assessing older drivers: Barriers, opportunities, and strategies. *Journal of the American Board of Family Practice, 17*(1), 38-43.

Braekhus, A., & Engedal, K. (1996). Mental impairment and driving licenses for elderly people--A survey among Norwegian general practitioners. *Scandinavian Journal of Primary Health Care, 14*(4), 223-228.

Cable, G., Reisner, M., Gerges, S., & Thirumavalavan, V. (2000). Knowledge, attitudes, and practices of geriatricians regarding patients with dementia who are potentially dangerous automobile drivers: A national survey. *Journal of the American Geriatrics Society, 48*(1), 14-17.

Center of Disease Control and Prevention. (2007). Prevalence of chronic kidney disease and associated risk factors. Retrieved July 2, 2008, from http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5608a2.htm

Daigneault, G., Joly, P., & Frigon, J. Y. (2002). Executive functions in the evaluation of accident risk of older drivers. *Journal of Clinical and Experimental Neuropsychology, 24*(2), 221-238.

Flowers, C. W., & Baker, R. S. (1998). Eye disorders. In T. Y. Yoshikawa, E. L. Cobbs, & K. Brummel-Smith (Eds.), *Practical Ambulatory Geriatrics* (2nd ed., pp. 482-495). St. Louis, MO: Mosby.

Foley, D. J., Wallace, R. B., & Eberhard, J. (1995). Risk factors for motor vehicle crashes among older drivers in a rural community. *Journal of American Geriatric Society, 43*(7), 776-781.

Forrest, K. Y., Bunker, C. H., Songer, T. J., Coben, J. H., & Cauley, J. A. (1997). Driving patterns and medical conditions in older women. *Journal of American Geriatrics Society, 45*(10), 1214-1218.

Freeman, E., Munoz, B., Turano, K., & West, S. (2006). Measures of visual function and their association with driving modification in older adults. *Investigative Ophthalmology and Visual Science* (February), 514-520.

Gallo, J. J., Rebok, G. W., & Lesikar, S. E. (1999). The driving habits of adults aged 60 years and older. *Journal of the American Geriatrics Society, 47*(3), 335-341.

Gillespie, N. D., & McMurdo, M. E. (1999). A survey of attitudes and knowledge of geriatricians to driving in elderly patients. *Age and Ageing, 28*(1), 53-57.

Hakamies-Blomqvist, L. (2002). Attitudes of primary care physicians toward older drivers: A Finnish-Swedish comparison. *Journal of Applied Gerontology, 21*(1), 58-69.

Hansen, E. A., & Hansen, B. L. (2002). Cognitive functions and driving ability of older drivers [English abstract]. *Ugeskr Laeger, 164*(3), 337-340.

Hemmelgarn, B., Suissa, S., Huang, A., Boivin, J. F., & Pinard, G. (1997). Benzodiazepine use and the risk of motor vehicle crash in the elderly. *JAMA, 278*(1), 27-31.

Insurance Institute for Highway Safety. (2007). US driver licensing procedures for older drivers. Retrieved December 3rd, 2007, 2007, from http://www.iihs.org/laws/olderdrivers.aspx

Irani, S. R., Cader, M. Z., & Butterworth, R. J. (2006). Doctor's knowledge of driving regulations: An interview-based survey. *Clinical Medicine, 6*(2), 217-219.

Jablon, R. (2006, October 21). Man convicted for market crash deaths. Retrieved December 3, 2007, from http://www.redorbit.com/news/display/?id=701558

Jang, R. W., Man-Son-Hing, M., Molnar, F. J., Hogan, D. B., Marshall, S. C., Auger, J., et al. (2007). Family physicians' attitudes and practices regarding assessments of medical fitness to drive in older persons. *Journal of General Internal Medicine 22*(4), 531-543.

Johansson, K., Bronge, L., Lundberg, C., Persson, A., Seideman, M., & Viitanen, M. (1996). Can a physician recognize an older driver with increased crash risk potential? *Journal of the American Geriatrics Society, 44*(10), 1198-1204.

Keall, M. D., & Frith, W. J. (2004). Association between older driver characteristics, on-road driving test performance, and crash liability. *Traffic Injury Prevention, 5*(2), 112-116.

LA Writer LLC. (2007, September 12). Ohio laws and rules. Retrieved December 3, 2007, from http://codes.ohio.gov/orc

Lings, S., & Jensen, P. B. (1991). Driving after stroke: A controlled laboratory investigation. *International Disability Studies, 13*(3), 74-82.

Lyman, J. M., McGwin, G., Jr., & Sims, R. V. (2001). Factors related to driving difficulty and habits in older drivers. *Accident Analysis and Prevention, 33*(3), 413-421.

Marottoli, R. A. (2000). The physician's role in the assessment of older drivers. *American Family Physician, 61*(1), 39, 42.

Marottoli, R. A., de Leon, C. F. M., Glass, T. A., Williams, C. S., Cooney, L. M., Jr.,, & Berkman, L. F. (2000). Consequences of driving cessation: Decreased out-of-home activity levels. *Journals of Gerontology Series B, 55*(6), S334-340.

Marshall, S. C., & Gilbert, N. (1999). Saskatchewan physicians' attitudes and knowledge regarding assessment of medical fitness to drive. *CMAJ, 160*(12), 1701-1704.

Marshall, S. C., Man-Son-Hing, M., Molnar, F., Wilson, K. G., & Blair, R. (2007). The acceptability to older drivers of different types of licensing restriction. *Accident Analysis and Prevention, 39*(4), 776-793.

McGwin, G., Jr., Sims, R. V., Pulley, L., & Roseman, J. M. (2000). Relations among chronic medical conditions, medications, and automobile crashes in the elderly: A population-based case-control study. *American Journal of Epidemiology, 152*(5), 424-431.

Meuser, T. M., Carr, D. B., Berg-Weger, M., Niewoehner, P., & Morris, J. C. (2006). Driving and dementia in older adults: Implementation and evaluation of a continuing education project. *Gerontologist, 46*(5), 680-687.

Miller, D. J., & Morley, J. E. (1993). Attitudes of physicians toward elderly drivers and driving policy. *Journal of the American Geriatrics Society, 41*(7), 722-724.

National Highway Transportation Safety Administration, National Center for Statistics and Analysis. (2005). Traffic safety facts. Retrieved June 6th, 2008, from http://www-nrd.nhtsa.dot.gov/Pubs/810622.PDF

Owsley, C., Ball, K., McGwin, G. J., Sloane, M. E., Roenker, D. L., White, M. F., et al. (1998). Visual processing impairment and risk of motor vehicle crash among older adults. *JAMA, 279*(14), 1083-1088.

Owsley, C., McGwin, G., Jr., Phillips, J. M., McNeal, S. F., & Stalvey, B. T. (2004). Impact of an educational program on the safety of high-risk, visually impaired, older drivers. *American Journal of Preventive Medicine, 26*(3), 222-229.

Retchin, S. M. (1998). Evaluation of the older driver. In T. Y. Yoshikawa, E. L. Cobbs, & K. Brummel-Smith (Eds.), *Practical Ambulatory Geriatrics* (2nd ed., pp. 105-112). St. Louis, MO: Mosby.

Sims, R. V., Ahmed, A., Sawyer, P., & Allman, R. M. (2007). Self-reported health and driving cessation in community-dwelling older drivers. *Journals of Gerontology. Series A, 62*(7), 789-793.

Steier, T. S., Kitai, E., Wiener, A., & Kahan, E. (2003). Are medical reports on fitness to drive trustworthy? *Postgraduate Medical Journal, 79*(927), 52-54.

Stutts, J. C. (1998a). Do older drivers with visual and cognitive impairments drive less? *Journal of the American Geriatrics Society, 46*(7), 854-861.

Stutts, J. C., Stewart, J.R., Martell, C. (1998b). Cognitive test performance and crash risk in an older driver population. *Accident Analysis and Prevention, 30* (3), 337-346.

Tuokko, H. A., McGee, P., Gabriel, G., & Rhodes, R. E. (2007). Perception, attitudes and beliefs, and openness to change: Implications for older driver education. *Accident Analysis and Prevention, 39*(4), 812-817.

Table 1

Characteristics of Respondents (%)

Male	53.1
Female	46.9
Age 20-30	37.5
Age 31-40	28.1
Age 41-50	21.9
Age 51-60	12.5
% of patients in office practice >65 years old	
10-30%	16.7
31-60%	46.7
61-90%	33.3
>90%	3.3
How often do you drive a motor vehicle	
Daily	96.9
Time spent assessing a patient's fitness to drive	
1 minute	16.7
10-20 minutes	13.3
21-30 minutes	10.0
Not Applicable	60.0
Number of patients assessed for fitness to drive in the last year	
0	56.7
1-2	23.3
3-5	6.7
6-9	6.7
10 or more	6.7
Number of patients reported to the Bureau of Motor Vehicles in the last year	
0	83.9
1-2	16.1

Table 2

Frequency of Responses for Selected Survey Questions (%)

	Strongly Agree	Agree	Neither agree/ disagree	Disagree	Strongly disagree	No Opinion
Assessing the fitness to drive of older persons is an important issue in my practice	6.5	22.6	41.9	19.4	6.5	3.2
Physician assistants should assess the driving capabilities of their older drivers more frequently than their middle aged drivers	19.4	51.6	22.6	6.5	0	0
I am confident in my ability to evaluate the driving fitness of my patients	3.1	21.9	28.1	40.6	3.1	3.1
Physicians and physician assistants are the most qualified professionals to identify older persons who are unsafe to drive	3.3	16.7	40.0	33.3	3.3	3.3
A clinical screening instrument that helps identify drivers at increased crash risk would be useful to my practice	25.0	53.1	12.5	6.3	0	3.1
I would benefit from further education about the evaluation of patients` fitness to drive	34.4	53.1	12.5	0	0	0
Physician assistants should be legally required to report unsafe drivers to the authorities	12.5	53.1	18.8	15.6	0	0

Physician assistants face a conflict of interest when they are required to report their patients	12.5	37.5	21.9	28.1	0	0
Reporting a patient who I consider an unsafe driver negatively impacts on the provider-patient relationship	9.4	56.3	15.6	18.8	0	0
Revoking a patient's license often leads to negative consequences for the patient	3.1	71.9	15.6	9.4	0	0
The Bureau of Motor Vehicles evaluates potentially unsafe drivers in a timely fashion	0	3.1	25.0	40.6	25.0	6.3
	Always	Often	Sometimes	Rarely	Never	Not Applicable
I am aware of whether my older patients are active drivers	12.5	43.8	28.1	12.5	0	3.1
I am aware of whether my patients with cognitive impairment are active drivers	15.6	21.9	40.6	12.5	0	3.1
My assessments of patients` fitness to drive are triggered by a family member raising concerns about their relative's driving	0	48.4	29.0	9.7	0	12.9
Patients that I deem to be unsafe drivers are adherent to my recommendation to stop driving	0	21.9	34.4	15.6	0	28.1
I report patients who are unsafe drivers and who refuse to stop driving	0	12.5	3.1	12.5	21.9	50.0

I refer patients to a medical specialist when I am uncertain of the patients` ability to drive safely	12.5	21.9	6.3	18.8	9.4	31.3
I refer patients for a road test when I am uncertain of the patients` ability to drive safely	3.2	12.9	3.2	12.9	41.9	25.8

Table 3

Frequencies of Carrying Out Various Components of Fitness-to-Drive Assessments in Older Patients (%)

	Always	Often	Sometimes	Rarely	Never	Not Applicable
History of driving accidents	3.2	19.4	6.5	19.4	6.5	45.2
History of driving infractions	3.3	13.3	6.7	6.7	20.0	50.0
Collateral driving history from relative	9.7	16.1	12.9	12.9	9.7	38.7
Medical History	37.5	9.4	9.4	0	6.3	37.5
Review of Medications	28.1	18.8	6.3	6.3	3.1	37.5
Alcohol History	22.6	19.4	16.1	0	3.2	38.7
Visual Acuity	19.4	12.9	12.9	9.7	6.5	38.7
Visual Fields	19.4	9.7	12.9	12.9	6.5	38.7
Hearing	6.5	12.9	16.1	12.9	9.7	41.9
Cognitive Testing	12.5	15.6	15.6	15.6	3.1	37.5
Cardiac Examination	22.6	16.1	6.5	6.5	9.7	38.7
Examination of joints	22.6	9.7	12.9	6.5	9.7	38.7
Neurologic examination	23.3	16.7	13.3	3.3	3.3	40.0
ECG	12.9	9.7	6.5	12.9	19.4	38.7
Referral to a medical specialist	3.2	19.4	22.6	3.2	6.5	45.2
Referral for a multidisciplinary geriatric assessment	3.2	3.2	9.7	12.9	25.8	45.2
Referral for a road test by the Bureau of Motor Vehicles	3.2	6.5	9.7	6.5	29.0	45.2
Referral for a road test by a center other than the Bureau of Motor Vehicles	9.7	6.5	3.2	0	29.0	51.6

Table 4

Frequencies of Current Knowledge of State Laws and Practices Regarding Geriatric Fitness to Drive (%)

	Yes	No	Don't Know
In my state, it is mandatory for physician assistants to report medically unsafe drivers to the licensing authorities	9.4	12.5	78.1
I know the steps to take to report patients who I feel are unsafe to drive	15.6	43.8	40.6
Legislation in my state regarding reporting unsafe drivers to the Bureau of Motor Vehicles protects me from being sued by patients I report	9.4	3.1	87.5
The Bureau of Motor Vehicles` procedures for evaluating potentially unsafe drivers are clear to me	0	71.9	28.1
Restricted licensing is available in my state	40.6	0	59.4
Centers that carry out road tests, other than the Bureau of Motor Vehicles, are available in my community	15.6	3.1	81.3

Table 5

Frequencies for Selected Survey Questions for Specific Scenarios

Reporting Frequencies-	Always	Often	Sometimes	Rarely	Never	Not Applicable
I am aware of whether my older patients are active drivers						
Mandatory reporting	0	100	0	0	0	0
Non-mandatory reporting	25.0	25.0	50.0	0	0	0
Don't know	12.0	40.0	28.0	0	0	0
My assessments of patients' fitness to drive are triggered by a family member raising concern						
Mandatory reporting	0	33.3	66.7	0	0	0
Non-mandatory reporting	0	75.0	25.0	0	0	0
Don't know	0	45.8	29.0	9.7	0	0
Patients that I deem to be unsafe drivers are adherent to my recommendation to stop driving						
Mandatory reporting	0	0	66.7	33.3	0	0
Non-mandatory reporting	0	0	25.0	50.0	25.0	0
Don't know	0	28.0	32.0	8.0	0	0
Referral to a medical specialist when patient's ability to drive safely is uncertain						
Mandatory reporting	0	33.3	0	0	0	66.7
Non-mandatory reporting	0	0	25.0	75.0	0	0
Don't know	16.0	24.0	4.0	12.0	12.0	32.0
Referral for a road test when patient's ability to drive safely is uncertain						
Mandatory reporting	0	0	0	50.0	0	50.0
Non-mandatory reporting	0	25.0	0	25.0	50.0	0
Don't know	4.0	12.0	4.0	8.0	44.0	28.0
Reporting patient's to authorities when his/her ability to drive safely is uncertain						
Mandatory reporting	0	0	66.7	0	0	33.3
Non-mandatory reporting	0	25.0	0	50.0	25.0	0
Don't know	0	0	8.3	12.5	37.5	41.7
Reporting unfit drivers who refuse to stop driving						
Mandatory reporting	0	0	33.3	33.3	0	33.3
Non-mandatory reporting	0	25.0	0	25.0	50.0	0
Don't know	0	12.0	0	8.0	20.0	60.0
Reporting patient's unfit to drive even if they agree to stop driving						
Mandatory reporting	0	0	0	66.7	0	33.3
Non-mandatory reporting	0	25.0	0	25.0	50.0	0

Don’t know	0	0	4.0	4.0	40.0	52.0
Feeling pressured to reconsider the decision to report unfit drivers by the patient						
Mandatory reporting	0	50.0	0	0	0	50.0
Non-mandatory reporting	0	0	25.0	25.0	0	50.0
Don’t know	0	8.0	8.0	12.0	8.0	64.0
Feeling pressured by the patient’s family to reconsider the decision to report the unfit driver						
Mandatory reporting	0	33.3	0	33.3	0	33.3
Non-mandatory reporting	0	0	0	75.0	0	25.0
Don’t know	0	4.0	8.0	12.0	12.0	64.0

Appendix: Survey Questionnaire

Q. Are you in an active practice that includes patients 65 years and older?

- ❍ Yes- Please complete the rest of the survey
- ❍ No- Do not complete the rest of the survey

Q. The Following Questions Ask about Your Attitudes towards Driving Assessments and Reporting

Please select your response:

1. Assessing the fitness to drive of older persons is an important issue in my practice.	Strongly Agree ❍ Agree ❍ Neither Agree/Disagree ❍ Disagree ❍ Strongly Disagree ❍ No Opinion ❍
2. Physician Assistants should assess the driving ability of their older drivers more frequently than their middle aged drivers.	
3. All persons with mild dementia are unsafe to drive.	
4. For every mile driven, older drivers are at significantly higher risk of crashing than middle aged drivers.	
5. For every mile driven, older drivers are at significantly higher risk of crashing than teenaged drivers.	
6. I am confident in my ability to evaluate the driving fitness of my patients.	
7. Physicians and physician assistants are the most qualified professionals to identify older persons who are unsafe to drive.	
8. The government adequately remunerates me for assessing my patients' fitness to drive.	
9. A clinical screening instrument that helps identify drivers at increased risk for crashed would be useful to my practice.	
10. I would benefit from further education about the evaluation of patients' fitness to drive.	
11. Physician assistants should be legally required to report unsafe drivers to the authorities.	
12. Physician assistants face a conflict of interest (patient confidentiality cs. public safety) when they are required to report their patients.	

13. Reporting a patient who I consider an unsafe driver negatively impacts on the provider-patient relationship.	
14. Revoking a patient's licence often leads to negative consequences for the patient.	
15. Revoking a patient's licence often leads to negative consequences for the patient's family.	
16. The availability of restricted licensing (i.e. ability to drive only under certain conditions) makes/would make me more likely to report unsafe drivers.	
17. The Bureau of Motor Vehicles evaluates potentially unsafe drivers in a timely fashion.	

Q. The Following Questions Ask about the Frequency of Your Practices Activities Pertaining to Driving Assessments and Reporting
Please select your response:

1. Assessing the fitness to drive of older persons is an important issue in my practice.	Always ❍ Often ❍ Sometimes ❍ Rarely ❍ Never ❍ Not Applicable ❍
2. Physician Assistants should assess the driving ability of their older drivers more frequently than their middle aged drivers.	
3. All persons with mild dementia are unsafe to drive.	
4. For every mile driven, older drivers are at significantly higher risk of crashing than middle aged drivers.	
5. For every mile driven, older drivers are at significantly higher risk of crashing than teenaged drivers.	
6. I am confident in my ability to evaluate the driving fitness of my patients.	
7. Physicians and physician assistants are the most qualified professionals to identify older persons who are unsafe to drive.	
8. The government adequately remunerates me for assessing my patients' fitness to drive.	
9. A clinical screening instrument that helps identify drivers at increased risk for crashed would be useful to my practice.	

10. I would benefit from further education about the evaluation of patients' fitness to drive.	
11. Physician assistants should be legally required to report unsafe drivers to the authorities.	
12. Physician assistants face a conflict of interest (patient confidentiality cs. public safety) when they are required to report their patients.	
13. Reporting a patient who I consider an unsafe driver negatively impacts on the provider-patient relationship.	
14. Revoking a patient's licence often leads to negative consequences for the patient.	
15. Revoking a patient's licence often leads to negative consequences for the patient's family.	
16. The availability of restricted licensing (i.e. ability to drive only under certain conditions) makes/would make me more likely to report unsafe drivers.	
17. The Bureau of Motor Vehicles evaluates potentially unsafe drivers in a timely fashion.	

Q. How Frequently do you Include the Following in Your Assessments of Older Patients Fitness to Drive

Please select your response: (Note: If you've never assessed an older person's fitness to drive, please circle “Not Applicable”.)

1. History of driving accidents.	Always ❍
2. History of driving infractions (e.g. speeding tickets, driving through red light/stop sign)	Often ❍ Sometimes ❍ Rarely ❍
3. Collateral driving history from relatives.	Never ❍
4. Medical history	Not Applicable ❍
5. Review of medications	
6. Alcohol history	
7. Visual acuity	
8. Visual fields	
9. Hearing	
10. Cognitive testing (e.g. Mini-Mental State Examination MMSE)	
11. Cardiac examination	
12. Examination of joints	

13. Neurologic examination	
14. ECG	
15. Referral to a medical specialist	
16. Referral for a multidisciplinary geriatric assessment.	
17. Referral for a road test by the Bureau of Motor Vehicles.	
18. Referral for a road test by a centre other than the Bureau of Motor Vehicles.	

Q. The Following Questions Ask about Driving Policies and Programs in Your State

Please select the appropriate response:

1. In my state, it is mandatory for physician assistants to report medically unsafe drivers to the licensing authorities.	Yes ❍ No ❍ Don't Know ❍
2. I know the steps to take to report patients who I feel are unsafe to drive.	
3. Legislation in my state regarding reporting unsafe drivers to the Bureau of Motor Vehicles protects me from being sued by patients I report.	
4. The Bureau of Motor Vehicles' procedures for evaluating potentially unsafe drivers are clear to me.	
5. Restricted licensing (i.e. ability to drive only under restricted conditions) is available in my state.	
6. Centres that carry out road tests, other than the Bureau of Motor Vehicles, are available in my community.	

The Following Questions Ask about You and Your Practice

1. What is your sex?
   - ❍ Male
   - ❍ Female

2. In what age group do you belong?
   - ❍ 20-30
   - ❍ 31-40
   - ❍ 41-50
   - ❍ 51-60
   - ❍ >60

3. How many years have you been in practice?
   years _____

4. What is the size of the community in which your practice is located?
   - ❍ 1
   - ❍ 10,000 - 50,000
   - ❍ 50,001 - 100,000
   - ❍ 100,001 - 500,000
   - ❍ >500,000

5. What is your primary type of practice? (choose all that apply)
   - ❑ academic
   - ❑ community
   - ❑ group
   - ❑ other

6. What is the number of patients in your practice?
   - ❍ 1
   - ❍ 500 - 1000
   - ❍ 1001 - 2000
   - ❍ 2001 - 3000
   - ❍ >3000

7. What % of patients in your office practice are aged 65+?
   - ❍ 1
   - ❍ 10 - 30%
   - ❍ 31 - 60%
   - ❍ 61 - 90%
   - ❍ >90%

8. How many patients did you assess for fitness to drive in the last year?
   - ❍ 0
   - ❍ 1 - 2
   - ❍ 3 - 5
   - ❍ 6 - 9
   - ❍ 10 or more

9. How many patients did you report to the Bureau of Motor Vehicles in the last year?
   - ❍ 0
   - ❍ 1 - 2
   - ❍ 3 - 5
   - ❍ 6 - 9
   - ❍ 10 or more

10. How much time do you typically spend in assessing a patient's fitness to drive?

- ❍ 1
- ❍ 10 - 20 min.
- ❍ 21 - 30 min.
- ❍ >30 min.
- ❍ Not Applicable

11. How often do you drive a motor vehicle?

- ❍ Never
- ❍ 2
- ❍ 1 - 2x/wk
- ❍ 3 - 6x/wk
- ❍ Daily

12. Please provide us with any additional comments that you would like to make about any of the topics raised or the survey itself.

_____
_____
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Abstract

Objective: To evaluate the attitudes of Ohio Physician Assistants regarding the driving assessment of elderly patients. **Method:** A survey questionnaire was emailed to Ohio physician assistants who are members of the American Academy of Physician Assistants. **Results:** 70% of the physician assistants surveyed do not believe assessing geriatric driving capabilities is an important issue in their practice. Only 25% of the respondents are confident when evaluating the driving fitness of geriatric patients and only 19% believe that PAs are the most qualified professionals to perform geriatric driving assessments. However, the respondents believe reporting unfit drivers should be legally required. Over 75% would like more education and a clinical screening instrument for these assessments. **Conclusions:** Physician assistants lack interest and confidence in performing geriatric driving assessments. Further education on the rationale and a method for geriatric driving assessment is needed.